CSc-9608 Theory Worksheet 3(Solution)

AS Level

Chapter 1: Data Representation

1 Lana creates a website. The web pages of the website contain JavaScript and PHP code.

(a) Describe the purpose of the following JavaScript statement.

```
document.getElementById("text 2").innerHTML = 10 + 2;
```

This is going to add 10 and 2 which is 12 then it is going output the value using the statement text 2.

[2]

(b) Describe the purpose of the following JavaScript code.

```
function calculateValue(value1, value2){}
```

It calls a function called caculateValue. Which has two parameters in it one is value 1 and the other one is value 2.

[2]

(c) Describe the purpose of the following PHP code.

```
$number1 = 2;

echo $number1 ** 3;
```

Here, $number1 is a variable which is assigned with 2. Echo $number1 ** 3 means it will multiply the value 3 with 2 twice and produce the result.

[2]

2 **(a)** Convert the following denary number into a 12-bit two's complement binary form.

-245

[1]

(b) Convert the following hexadecimal number into denary.

F0

.....

..... [1]

(c) Convert the following unsigned binary integer into denary.

Duke Sir

10101111

.....

..... [1]

(d) Convert the following Binary Coded Decimal (BCD) into denary.

100001010011

.....

..... [1]

3 Anne is downloading a sound file from a web server. She had the choice of a sampling rate of 44.1 kHz or 98 kHz before she downloaded the sound file.

Explain the differences between the two sound files stored on the server.

44.1kHz is the sampling rate which has less number of bits compared to 98khz. Here, 44.1khz is lower in size but it is not same as the original file, On the other hand, 98kHz is higher sampling rate which means it has more bits in it to store which increases the file size but the quality remains like original.

[4]

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